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of them, more especially when the latter are situated in places where jungle is dense, and there is fear of attacks from wild animals. In the Lyngam village is to be seen a high bamboo platform some 20 to 30 ft. from the ground, built in the midst of the village, where the elders sit and gossip in the evening.

All the villages, Khasi, Wár, Lyngam and Bhoi, swarm with pigs, which run about the villages unchecked. The pigs feed on all kinds of filth, and in addition are fed upon the wort and spent wash of the brewings of country spirit, or rice beer, the latter being carefully collected and poured into wooden troughs. The pigs are of the usual black description seen in India. They thrive greatly in the Khasi villages, and frequently attain extreme obesity.

In the Khasi villages of the high plateaux are often nowadays potato gardens, the latter being carefully protected from the inroads of pigs, calves, and goats by dry dikes surmounted by hedges.

I noticed an interesting custom at a Bhoi village in Nongpoh of barricading the path leading to the village from the forest with bamboo palisading and bamboo *chevaux de frise* to keep out the demon of cholera. In the middle of the barricade there was a wooden door over which was nailed the skull of a monkey which had been sacrificed to this demon, which is, as amongst the Syntengs, called *khlam*.

FURNITURE AND HOUSEHOLD UTENSILS.

As in the case of houses, so with reference to furniture, the influence of civilization shows many changes. The Khasi of the present day who lives in Mawkhar * has a comfortable house regularly divided up into rooms in the European style with even some European articles of furniture, but owing probably to the influence of the women, he still possesses several of the articles of furniture which are to be met with in the houses of those who still observe the old style of living. Let us take the furniture of the kitchen to begin with. Above the hearth is slung by ropes of cane a swinging wooden framework

* Mawkhar is a suburb of Shillong, the headquarters station.

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(*ki thiar*). The paddy-fields are not manured. The Khasis, 243
when cultivating high lands, select a clayey soil if they can. In the early part of the winter the sods are turned over with the hoe, and they are exposed to the action of the atmosphere for a period of about two months. When the sods are dry, they are placed in piles, which are generally in rows in the fields, and by means of ignited bunches of dry grass within the piles a slow fire is kept up, the piles of sods being gradually reduced to ashes. This is the "paring and burning process" used in England. The ashes so obtained are then carefully raked over the field. Sometimes other manure is also applied, but not when paddy is cultivated. The soil is now fit to receive the seed, either high-land paddy, millet, Job's tears, or other crops, as the case may be. The homestead lands are plentifully manured, and consequently, with attention, produce good crops. They are cultivated with the hoe.

The cultivation of oranges in the southern portion of the 244 •
district ranks equally in importance with that of the potato in 245
the northern. The orange, which is known in Calcutta as the Chhatak or Sylhet orange, comes from the warm southern slopes of the hills in this district, where it is cultivated on an extensive scale. Although oranges do best when there is considerable heat, they have been known to do well as high as 3,000 ft.; but the usual limit of elevation for the growth of oranges in this district is probably about 1,000 to 1,500 ft. The orange of the Khasi Hills has always been famous for its excellence, and Sir George Birdwood, in his introduction to the "First Letter Book of the East India Company," page 36, refers to the orange and lemon of Garhwál, Sikkim, and Khasia as having been carried by Arab traders into Syria, "whence the Crusaders helped to gradually propagate them throughout Southern Europe." Therefore, whereas the potato was im- 07
ported, the orange would appear to be indigenous in these hills.

Nurseries.—The seeds are collected and dried by being 247
exposed to the sun. In the spring nurseries are prepared, the ground being thoroughly hoed and the soil pulverized as far as possible. The nursery is walled with stones. The seeds are then sown, a thin top layer of earth being applied. The

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247 nurseries are regularly watered, and are covered up with layers of leaves to ensure, as far as possible, the retention of the necessary moisture. When the plants are 3 or 4 in. high, they are transplanted to another and larger nursery, the soil of which has been previously well prepared for the reception of the young plants.

245 An orangery is prepared in the following manner:—

The shrubs, weeds and small trees are cut down, leaving only the big trees for the purpose of shade. The plants from the nurseries are planted from 6 ft. to 9 ft. apart. When they have become young trees, many of the branches of the sheltering trees mentioned above are lopped off, so as to admit the necessary amount of sunlight to the young orange trees. As the orange trees increase in size, the sheltering trees are gradually felled. The orchard requires clearing of jungle once in spring and once in autumn. The Khasis do not manure their orange trees, nor do they dig about and expose the roots. The [435] price of orange plants is from 75 to 100 plants per rupee for plants from 1 to 2 ft. in height, and from fifty to seventy-five plants per rupee for plants from 2 to 5 ft. in height. Orange trees bear fruit when from five to eight years old in ordinary soils. In very fertile soils they sometimes bear after four years. A full-grown tree yields annually as many as 1,000 438 oranges, but a larger number is not unknown. The larger portion of the produce is exported from the district to the plains, and to fruit markets at the foot of the hills such as Theria, Mawdon, and Phali-Bazar, on the Shella river, whence it finds its way to the Calcutta and Eastern Bengal markets.

244 Potatoes are raised on all classes of land, except *hali*, or wet paddy land. When the land has been properly levelled and hoed, drains are dug about the field. A cultivator (generally a female), with a basket of seed potatoes on her back and with a small hoe in her right hand, digs holes and with the left hand drops two seed-potatoes into each hole. The holes are about 6 in. in diameter, 6 in. deep, and from 6 to 9 in. apart from one another. Another woman, with a load of manure in a basket on her back, throws a little manure over the seed in the hole, and then covers both up with earth.

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After the plants have attained the height of about 6 in., they are earthed up. When the leaves turn yellow, it is a sign that the potatoes are ripe. The different kinds of sweet potatoes grown and the yam and another kind of esculent root—*u sohphlang* (*flemingia vestita Benth.*) will be noticed under the head of "Crops."

The Khasis possess very few agricultural sayings and proverbs, but the following may be quoted as examples:—

(1) *Wat ju ai thung jingthung ne bet symbai ha uba sniew kti.*

Do not allow plants to be planted or seeds to be sown by one who has a bad hand.

As elsewhere, there is a belief amongst the Khasis that some people's touch as regards agriculture is unlucky.

(2) *Thung dieng ne bet symbai haba ngen bnai, ym haba shai u bnai.*

Plant trees or sow seeds not when the moon is waxing, but when it is on the wane.

(3) *Wei la saw bha ka bneng sepngi jan miet phin sa ioh jingrang lashai.*

A red sky in the west in the evening is the sign of fine weather to-morrow.

Cf. our English proverb "a red sky in the morning is a shepherd's warning, a red sky at night is a shepherd's delight."

CROPS.

The varieties of rice found in the Khasi Hills are divided into two main classes, one grown as a dry crop on high lands, and the other raised in valleys and hollows which are artificially irrigated from hill streams. The lowland rice is more productive than that grown on high lands, the average per acre of the former, according to the agricultural bulletin, as ascertained from the results of 817 experimental crop cuttings carried out during the fifteen years preceding the year 1898, being 11.7 maunds of paddy per acre, as against an average of 9.4 maunds per acre (resulting from 667 cuttings made during the

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243 same period) for the latter.* The average out-turn of both
433 kinds is extremely poor, as compared with that of any description of rice grown in the plains. The rice grown in the hills is said by the Agricultural Department to be of inferior quality, the grain when cleaned being of a red colour, and extremely
• 244 coarse. The cultivation of potatoes is practically confined to the Khasi Hills, there being little or none in the Jaintia Hills. The normal out-turn of the summer crop sown in February and harvested in June is reported by the Agricultural Department to be five times the quantity of seed used, and that of the winter crop, sown in August and September on the land from which the summer crop has been taken, and harvested in December, twice the quantity of seed. The winter crop is raised chiefly for the purpose of obtaining seed for the spring sowings, as it is found difficult to keep potatoes from the summer crop in good condition till the following spring. The usual quantity of seed used to the acre at each sowing is about 9 maunds, so that the gross out-turn of an acre of land cultivated with potatoes during the year may be taken at 63 maunds, and the net out-turn, after deducting the quantity of seed used, at 45 maunds. The above estimate of the Agricultural Department rests chiefly on the statements of the cultivators, and has not been adequately tested by experiment.

244 Since the appearance of the potato disease in 1885-86 there
439 has been a great decrease in the area under potato cultivation. In 1881-82 the exports of potatoes from the district were as high as 126,981 maunds. From 1886-87 the exports began annually to decrease until in 1895-96 the very low figure of 8,296 maunds was reached. The figures of export for the last nine years are as follows :—

1896-97	16,726	maunds.
1897-98	7,805	,,
1898-99	9,272	,,
1899-00	5,422	,,
1900-01	29,142	,,
1901-02	38,251	,,
1902-03	36,047	,,
1903-04	50,990	,,

* See Bulletin No. 5 of the Agricultural Department of Assam, 1898, pp. 4 and 5.

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It will be seen that in the three years following the earthquake of 1897 the exports fell very low indeed. Since 1901 the trade has been steadily recovering, and the exports of 1904 reached half a lakh of maunds.

It will be observed that there has been some improvement, but the exports are still not half what they were in 1881-82. There are two kinds of sweet potatoes grown in the district, the Garo potato (*u phan Karo*), which appears to have been introduced from the Garo Hills, and *u phan sawlia*, the latter being distinguished from the Garo potato by its having a red skin, the Garo potato possessing a white skin. These kinds of potato are planted on all classes of land except *hali*, they do best on jhumed and homestead lands. The yam proper (*u phan shynreh*) is also largely grown. The small plant with an edible root called by the Khasis *u sohphang* (*flemingia vestita Benth.*), is also largely grown. The roots of the plant after being peeled are eaten raw by the Khasis. As far as we know, this esculent is not cultivated in the adjoining hill districts. Job's tears (*coix lachryma-Jobi*) * are extensively grown, and are planted frequently with the *sohphlang* mentioned above. This cereal forms a substitute for rice amongst the poorer cultivators. Maize or Indian corn (*u riew hadem*) is grown frequently, thriving best on homestead land, and requires heavy manuring; it is grown in rotation with potatoes. Next in importance to rice comes the millet (*u krai*), as a staple of food amongst the Khasis. There are three varieties of millets generally to be seen in the Khasi Hills:—*u 'rai-soh* (*setaria Italica*), *u 'rai-shan* (Paspalum sanguinale), and *u 'rai-truh* (Eleusine coracana). *U 'rai-shan* is cultivated in rotation with the potato, *u 'rai-soh* and *u 'rai-truh* are generally cultivated on jhumed land, where they thrive well. Millet is sometimes used instead of rice in the manufacture of spirit by the Khasis; *u rymbai-ja* (*phaseolus calcaratus*), and *u rymbai ktung* (*glycine soja*) are beans which are cultivated occasionally. Khasis highly prize the fruit of the plantain, which they give to infants mashed up. The following are the best known varieties:—*Ka kait khún, ka kait siem, ka kait kulbuit, ka kait bamon, ka kait shyieng.*

* Khasi *u soh-riew.*

thereafter, the British negotiated treaties with all the Khasi states, the last treaty being signed in 1862. It was contracted that the chiefs would be subject to the authority of a resident political agent, whose duties would involve maintaining law and order, judging cases of heinous crimes, approving the popular selection of any new chief, and exercising control over certain categories of natural resources. Khasis were guaranteed noninterference in their customary way of life, and they were not then, nor are they now, taxed. Most Khasis, as opposed to Jaintias, were never an integral part of British India, but they did undergo social change as a result of British presence. To summarize Mills (n.d.): (1) The British introduced the potato, which the Khasis rapidly took up as a cash crop for marketing as far as Calcutta. The intensive specialization exhausted the soil and made for ever-poorer crops. (2) Christian missionaries made large numbers of converts, and there arose the difficult question of whether a Christian should inherit property that traditionally was earmarked for her performance of non-Christian religious rituals. (3) About 1864 the British transferred their headquarters from Cherrapunji to Shillong. When they made Shillong the capital of the entire state of Assam, non-Khasis flocked to it, land values soared, and the concept of private property became increasingly important. Khasis began to marry with members of other ethnic groups, which introduced confusion into traditional social patterns. These problems were exacerbated during World War II, when Shillong and its environs enjoyed enormous economic prosperity. One notable aftermath of this affluence has been the accelerated enrollments in schools and colleges. Hundreds of Khasis now have the B.A., M.A., and even the Ph.D. degree. • With the Independence of India in 1947, and under the Sixth Schedule of the Constitution of India (which was drafted by a Khasi), the United Khasi–Jaintia Hills District became a Part B, or Autonomous, Tribal Area, to be governed by a District Council composed largely of Khasis and Jaintias, and responsible not to the Legislature of Assam, but to the Governor of Assam as agent of the President of India. The native-state system and the chiefs still exist, and the District Council finds it difficult to effect legislation which is neither offensive to regional custom nor a simple blueprint of ill-fitting all-India legislation. The major political schism at this time is between Jaintias, who are accustomed to centralized authority and taxation, and Khasis, who resist the notion of taxation to support the work of a central District Council. [Cf. Gait 1926; Aitchison 1931; Bhuyan 1949; Morris 1910.]

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SETTLEMENT PATTERN AND HOUSING. **Settlement pattern.** Khasis live sedentarily in named, nucleated, and unplanned villages which are situated just below hill summits to avoid strong winds but still be defensible, and which usually include a de-

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Uptill now the main sources of forest revenue in the district are timber, limestone, lac, bay leaf and elephants. 13

2.6 **Agriculture.**—The greater proportion of population of the district subsist on agriculture. The staple crops raised in the district are wet and dry rice, various kinds of millets, maize, potatoes, pineapples, oranges, arecanut, betel-leaf and bay leaf. To a smaller extent they grow in the gardens round their houses vegetables, pulses and occasionally sugarcane. 24

2.6.1 **The main crops : Rice.**—While wet rice is grown in the valleys with which the hills are intersected, dry rice is grown on the hill sides. Highland rice is seldom grown twice running on the same spot for after one crop the soil is exhausted and a fallow period of four to five years is usually allowed. Jowai subdivision is predominantly a wet rice producing area. In Shillong subdivision main wet rice pockets are the Bhoi area stretching upto the sung valley and the northern portion of the plateau, the Mylliem state, the south-western portion of the district and the southern plain portion of the district adjoining East Pakistan. Dry rice is grown more or less through out the district. While Jowai subdivision can claim self sufficiency in rice, Shillong subdivision is a deficit area and the people in this subdivision particularly those in the southern portion (border area) of the district have to depend on supplies from outside. Though there is no reliable statistices of the area under rice, a rough estimate is given elsewhere in the land utilisation table. 243

Maize and millet.—Are two important food crops of the district grown more or less throughout the district.

Potatoes are extensively grown in the higher slopes and in the lower land which are well drained. Generally two crops of potatoes are raised annually in the district. In respect of production and export of potato this district occupies the topmost position in the State of Assam. 244

Orange, betel leaf and arecanut are most extensively grown in the southern base of the hills, *i.e.* all over the border areas. Oranges are also grown in Bornihat areas, in the northern portion of the district. Orange and betelnut plantations extend from the foot of the hills to a height of about 1500 feet and are carried up the ravines which score the southern face of the high plateau. The district is an important producer of Bay-leaf which is abundantly found in the border areas of the district. Other valuable cash crops of the district are black pepper, turmeric, chillies, ginger, pineapple and various other fruits. 245

2.6.2 **Agricultural seasons.**—For wet rice, the lands which are naturally irrigated by virtue of their very location, are ploughed or hoed by about the middle of February and seed sown in May or June. Harvesting takes place in October and November. For dry rice, the land is hoed by about the middle of September, the solds are collected into little heaps and burnt and by February the land is again hoed up and the seed sown in April - May. Harvesting goes 243

243 on from October to December. For millets the seed is sown in April-May and reaped about six months later. Maize is usually sown in
244 April-May and ripens in August - September. For potato, generally three crops are raised in the district ; the first is sown in December-January and harvested in April-May, the second is sown in February-March and is gathered in June-July and the third is sown in July-August and is harvested in November-December.

245 For oranges and betelnut the orchards are cleared of weeds twice a year. Harvesting of orange takes place from October to January. Betelnut ripens at the beginning of the year and are collected between February and May.

241 2.6.3 **Agricultural implements.**—The usual agricultural implements are a hoe, a sickle, three or four kinds of doas, a harrow, a crowbar which is used for the construction of irrigation channels, 'sierras' and winnowing baskets. Bullock drawn plough is used in wet paddy cultivation in parts of Jowai subdivision and in Bhoi area and resembles the one in use in the plains of the State.

2. 6. 4. **General cultural practices.**—The cultivators mostly adhere to their indigenous practices of cultivation. Rotation of crops is not widely used. Cultivation of rice is usually done by broadcasting the seeds though transplanting is also in vogue in some areas. Mixed cropping is widely practised. Cultivation by making terraces in the hill slopes is gaining popularity in the district.

433 326 323 285 306 286 171 654 231 2.7 **Cottage Industries.**—Cottage Industries, it appears, have not found very great favour among the people of the district. A few families here and there manufacture iron implements, earthenware, pottery, baskets, mats and jewellery. In striking contrast with other districts weaving of cotton clothes is rare among the Khasis. The Mikirs in Bhoi area and in areas adjoining North Cachar and Mikir Hills practice it only for their domestic consumption. At present, the Government is trying to popularise weaving in the district and this has been welcomed by the Khasis. Among other cottage industries production of eri cocoon in the northern part of the district adjoining Kamrup district and bee keeping throughout the district are worth mentioning.

142 147 441 563 2.8 **The People.**—The Khasis and Jaintias are a short sturdy race distinct from the neighbouring hill tribes. By nature they are hardy and laborious and in respect of manual labour, they are free from any inhibition. Side by side with the Khasis live the Mikirs, Garos and Nepalis who form respectively 7.32 percent, 3.38 percent and 3·27 per cent of the total rural population. Besides, there are plains people who are mainly concentrated in the town of Shillong. In the marketing centres of the border area there are a large number of Bengali Hindus who dominate the bulk of the trade in the border areas.

241 433 461 2.9 **Occupation.**—The greater portion of the population of the district subsists on cultivation. More than 75 percent of the rural households are predominantly agricultural. The industrious Khasi agriculturists males and females have a high regard for hard labour

8·5—In the following paragraphs we have reproduced the yield rates of different crops, calculated on the basis of area harvested and total produces reported by the cultivators. For assesment of correct yield rates it is necessary to conduct a scientifically designed crops cutting survey which in view of its largeness in magnitude and other complexities associated with the type of experiments, could not be fitted in with the programme of the present survey. It is admitted that the yield estimates worked out by us are proved to be subjected to the usual limitations of this type of data. 128 433

Yield

1. **Paddy.**—It will be seen from table above that average yields of paddy per acre for Border area, General area and Project area are respectively 8.38 maunds, 12.92 maunds and 12.60 maunds and for the district as a whole it comes to 11.65 maunds though there are cases where maximum yield goes to above 18 maunds per acre. Thus it is seen that the average yield is much less than the average yield for the State of Assam (plain district) which is above 18 maunds per acre. Average yield in Border area is evidently much smaller. Apart from low fertility of land, another reason for this low average is that in a number of villages selected from Border area such as Syndai, Amki and Lumshnong, there was widespread havoc to standing crops was caused by wild elephants. 243 433 [136]

2. **Potato.**—The average for the three areas comes to 21·61 maunds per acre which is in contrast to the State average of above 40 maunds per acre. Our estimate has in fact been lowered due to inclusion of a few villages in the foot hills where potatoes don't grow well, otherwise in a number of high altitude villages, yield per acre well exceeded 40 maunds. The average for Border area is rather too low. Apart from unsuitability of Border land of high altitude potatoes another reason for this low average is that during the reference year the crop suffered from widespread incidence of pests and insects. 244 433 [136]

3. **Orange.**—yield of orange in Border area, Project area and General area was found to be 5. 27 luties or 5396 numbers against 16.76 luties or 17162 numbers and 2.80 luties or 2867 numbers respectively Thus the average yield in Border area, even considering the mixed nature of some gardens is much low. The reasons are obvious. 245 433

4. **Betelnut**—Average yield per acre from Border area, Project area and General area was found to be 2.93 luties (18752 numbers), 4.11 luties (26304 numbers) ann 3.03 luties (19392 numbers) respectively bringing the average for all the three areas to 2.95 luties per arce. 249 433

5. **Betel leaf.**—Average yield per acre works out at 17·15 kuris, 50.64 kuris and 24 kuris in Border area, Project area and General area respectively. Thus in Booder area the average is much lower. This is due to the fact that most of the gardens remained unplucked for want of market for leaf.

16: McCormack E-4,5 (1956-1958) 1964
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nure and chemical fertilizers. Both level land and hillsides are cultivated by the same hand techniques: 3 × 6-foot patches are fashioned with walkways between, sods are overturned within the patches and allowed to dry, the sods are burned slowly and the ashes spread over the soil, and finally the seed is sown, either broadcast or sunk with the aid of the typical Khasi hoe. The coldest part of the upland enjoys a two-crop year, and Khasis often double crop as well. Paddy has long been found in the lowlands, in parts of Jaintia and Bhoi, the only places where the plow is found. Nowadays paddy is more and more seen in the uplands, together with a simple terracing and irrigation technology. Many upland Khasis have house gardens in which they raise a wide variety of vegetables, including pumpkins, cabbage, radishes, sweet potatoes, eggplant, and many others. Important crops in Bhoi country are paddy rice, lac, caoutchouc, cotton, bananas, and pineapples; in War, they are betel nut, pan leaf, oranges, and sugar cane. **Fishing and hunting.** Fishing is done by poisoning streams, but this is a subsistence activity only in the southern foothills. Hunting was formerly by bow and arrow or by traps, including spring guns and pitfalls, but was always primarily a sport. [Cf. Stegmiller 1925.] **Gathering.** Khasis once gathered about 150 species of wild plants, most of them for food, but some for medicine. Thrifty villagers still gather food plants, but there is no real dependence on gathering. Medicinal plants continue to be very important. **Domestic animals.** Fowl, goats, pigs, and cattle are bred both for meat and sacrifice. Milk was formerly not utilized, but is now so popular that specialists keep herds of milch cows. Pigs are used as village scavengers, but some also receive prepared food. Cattle and goats forage freely in the fields during the winter, but are herded by a communally hired herdsboy during the agricultural season. Most households keep chickens, primarily for their eggs, and a few keep ducks. A few horses are also seen. Dogs are pariahs, except for hunting dogs. Cats are popular. **Food and stimulants.** The staple food of Khasis is boiled rice, together with the dried fish which is imported from Sylhet. Boiled beef, pork, and chicken are relished, but beyond the means of most. Meals are taken twice a day, in the morning and evening, although farmers also take a midday meal in the field, and others may take tea and cold sweet potatoes or rice bread. Certain foods are taboo to certain sibs. Stimulants are extremely common, especially betel nut, which is often accompanied by a bit of tobacco. Tobacco is also smoked as cigarettes and in hookah and other pipes. Every village has one or more household taverns, where distilled rice whisky is cooked and sold by the glass and by the bottle. Imported opium had spread widely in the malarious Bhoi country, but controls instituted in the 1940s have been fairly successful. All stimulants were once taken by men, women, and

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20: Hunter G-4 (no date) 1897 AR7 Khasi AR7

243 the District, nor do any superior kinds of cereals appear to have been substituted for inferior ones.

THE DIFFERENT STAGES OF RICE CULTIVATION, in English and Khásí, are as follow:—The blade as it first shows, *spch-u-kyba;* the blade when well above the ground, *la-thylleng-u-kyba;* the ears when first formed, *lam-mat;* the ears beginning to ripen, *byr-tem;* the ripe ears, *la-kih;* unhusked rice, *u-kyba;* husked rice, *u-khaw;* cooked rice, *ka-ja.*

262 [435] [782] THE VARIOUS SOLID AND LIQUID PREPARATIONS made from rice are the following:—(1) *U-kypu*, cakes of different kinds, sold at six or twelve for a penny, according to size. (2) *U-shirá* or *gáh-khir*, prepared by the hillmen as an offering to their deity at the conclusion of the harvest. (3) *Kadam*, fermented rice water, sold at the rate of from three-farthings to threepence per quart, according to the strength of the liquor. (4) *Ka kiad-phatika* or *ka kiad-hárak*, a kind of spirits distilled from rice, and sold at from threepence to fourpence-halfpenny per quart.

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243 OTHER CEREALS.—Indian corn, or *u-riu-ha-dem*, is grown on homestead lands. The ground is first manured, and the seed is sown about the middle of April. The crop is fit for cutting in September and October. A kind of millet seed called *u-krdi* is commonly sown with paddy on high lands. For want of more suitable land, however, this crop is often cultivated by itself on rocky slopes; and when this course is adopted, the jungle is first cut down in February and burnt. The seed is sown in April, and the crop gathered in December.

• 244 PULSES AND FIBRES.—Only two kinds of pulses are grown in the Hills, *u-rym-bai-ktung* and *u-rym-bai-jú*, both of which are varieties of beans. They are sown on high lands in March and April, and gathered in December. The only fibre is that made from the pine-apple stalk, which is largely used for making netted bags.

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245 [439] MISCELLANEOUS CROPS.—(1) Oranges.—There are numerous orange plantations in the neighbourhood of Cherrá Púnjí, and the fruit is exported to all parts of Bengal. In the year 1876-77 the estimated exports were 9,400,000 in number, valued at Rs. 37,600, or £3760, at the rate of Rs. 12 or £1, 4s. per three thousand. These figures show a decrease in number as compared with the estimated export twenty years ago. The trees flower in March or April, and the fruit ripens in October and the following months. In some cases the oranges are allowed to remain on the trees till March, but

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generally the gathering does not extend beyond January. As a rule, the cultivation is confined to the valleys and slopes on the southern face of the hills. (2) Pine-apples are also largely cultivated on the southern slopes, and grow to great perfection on the limestone formation. The fruit ripens in May or June, and is exported in considerable quantities. In 1876-77 the export of pine-apples was valued at Rs. 8000 or £800. (3) Potatoes are extensively grown on slopes of high land, and also in the low-lying fields where the land is well drained. The tuber was first introduced into the Hills in 1830 by Mr. Scott, who was then the Governor-General's Agent. The season for sowing commences about the middle of February when the rains set in early, and in April when they are late. The ground is dug up and carefully manured with burnt earth, and holes are dug about nine inches deep, and the same distance from each other. These holes are then partially filled in with loose earth, and a potato or two halves of one placed in each. They are then filled up with dry manure and soil. When the plant is fifteen or twenty days old, the ground about the roots is loosened and the plant earthed up, and the land is kept carefully weeded. In about four months after sowing, the crop is gathered. During the cold weather a second crop is raised, the seeds being planted in September and the tubers dug up in December. Potato cultivation has largely increased of late years in the District. In 1876-77 the exports were approximately estimated at 200,500 *maunds*, or 7480 tons, valued at Rs. 501,250 or £50,125, at the rate of Rs. 2. 8 per *maund*, or £7 per ton. (4) Sugar-cane is grown, but not to any great extent; cuttings are planted in March, and the cane ripens by November or December. (5) *Pán* is extensively cultivated, the runner being trained up trees standing in deep and shady valleys. Planting is carried on during the months of April and May, but the leaves are not fit to be gathered till the plant is two years old. (6) The *supári* or betel-nut (Areca catechu), called *u-kwai* by the Khásiás, is grown on the lower southern slopes of the hills, and, together with the *pán* leaf, is consumed in immoderate quantities by the inhabitants, who measure distance by the number of *páns* consumed on a journey. It is also exported to the plains. (7) *U-soh-phlang*, a root crop resembling a small turnip, is sown on high lands in April and gathered in September. It is a poor vegetable, but the natives of the Hills are fond of it, and eat it either raw or cooked. (8) Cotton is grown on high lands and

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reared either for food or as articles of trade. A pair of ploughing oxen are worth about Rs. 32, or £3, 4s.; an ordinary cow, Rs. 12, or £1, 4s.; a score of kids six months old, Rs. 16, or £1, 12s.; and a score of full-grown pigs, from Rs. 100 to Rs. 160, or from £10 to £16. 231 435

THE AGRICULTURAL IMPLEMENTS in use in the District consist of a plough, called *ka-jing-lúr* in Khásí, and a hoe or *kodáli*, called *u-mo-khiew*. When the cultivation is carried on by means of oxen, the plough is used, the hoe alone being used when the land is cultivated by manual labour. In the Khási Hills the use of the plough, except in a few rare cases, is entirely unknown; but in the Jáintiá Hills, oxen and ploughs are used to a greater extent. What is technically termed 'a plough' of land is equivalent to four English acres; a pair of oxen, together with the necessary implements, would represent a capital of about Rs. 40, or £4. 241 407 [435]

WAGES.—The Deputy-Commissioner reports that the price of labour in the District has more than doubled in the last ten years. The rates obtaining at present are from eightpence to one shilling a day for an ordinary labourer, and from one shilling to eighteenpence a day for a porter. An agricultural day-labourer earns sixpence, and a woman at the same work fourpence-halfpenny a day. Bricklayers, carpenters, and blacksmiths earn from a shilling to eighteenpence a day. The new Station of Shillong, the present seat of the Local Government, was established in May 1864, and since that date the demand for labour has markedly increased. The extension of the cultivation of potatoes has also had an appreciable effect on the price of labour. 178 464 465 [244]

PRICES OF FOOD GRAINS.—Of the different descriptions of rice in the markets of the District, the better sorts are imported from the neighbouring Districts of Sylhet and Kámrúp. The local produce is considered fit only for the use of the Khásiás. The price of the better descriptions depends entirely upon the distance from which the supplies come. In a distant market like that of Shillong, rice of the best quality generally sells at from 6 to 7 *sers* for the rupee, or from 16s. to 18s. 8d. per cwt.; and rice of inferior quality, which is only used by the poorer classes, at from 9 to 10 *sers* for the rupee, or from 11s. 2d. to 12s. 5d. per cwt. Little or no trade is carried on in unhusked grain. Paddy produced in the District generally sells at an average of from 15 to 16 *sers* per rupee, or from 7s. to 7s. 6d. per cwt. Indian corn, which is only grown to a small extent, is sold 435 439 243

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extent of waste land, some is cultivated in a manner resembling the *jûm* system,—successive crops are grown on a patch of land till the soil is exhausted, and then another spot is selected, where the same process is repeated afresh, but without anything that can be called a *jûmid* tenure. Any renting of land is exceptional, and there are no recognised rates of rent. The Deputy-Commissioner, however, states that an ordinary rate for rented land would be from two to three shillings a year for as much land as an individual can cultivate with his own hands.

MANURE is generally used in raising rice and potatoes. It is seldom purchased, the dung and litter of the cattle and other animals about the house being generally utilized for the purpose. For rice fields a little less than half a ton of manure, but for potatoes upwards of two tons, is required per acre. Manure, if purchased, would cost from 2s. 7½d. to 3s. 9d. per acre for rice land, and for potato fields from 12s. to 18s. per acre.

IRRIGATION for agricultural purposes is regularly practised. Water is brought to the land by means of channels cut from the numerous hill streams in the neighbourhood of the fields. Wells and tanks are unknown. The work of irrigation by means of these channels is very easily carried on, and at a very trifling outlay. Rotation of crops is not practised in the Hills.

MODEL FARM.—The Shillong Model Farm, established in 1873, has not proved a success. Experiments tried with wheat give some hope that cold-weather crops may profitably be introduced into the Hills. Two new varieties of potato—'red roughs' and 'pheasant's eye'—were successfully introduced in 1873-74; but these are not looked upon favourably by the Khásiás, as they only give one crop in the year, whereas the ordinary variety yields two crops. Several fruit-trees have been planted out, including apple, pear, cherry, nectarine, and plum; and the tables of the European residents are supplied with vegetables from the garden attached to the farm. A *Manual of Potato Cultivation* compiled by the superintendent has been translated into Assamese, and copies have been distributed among the adjoining Hill tribes. The general failure in all the agricultural experiments is attributed partly to the unfitness of the soil, and still more to the ravages of white ants and other insects peculiar to the Hills. The attempts to improve the indigenous breeds of live stock have been equally unfortunate. During the two years 1874-76 the sum of Rs. 1744

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231 (£174, 8s.) was expended on the purchase of stock, including
648 cattle, sheep, and pigs from England. Even native cattle at the
654 elevation of Shillong fall off very much in the months of January and February from want of forage, and the Khásiás at this season generally drive them to lower slopes. But one of the chief objects in keeping cattle at the farm was to obtain manure; and *mati kaldi* (Phaseolus radiatus) was grown for them, cut green, and stocked
[731] for food. On this they did very well. In 1875-76, however, cattle disease broke out on the farm in a very virulent shape. Out of 39 cattle attacked, only 7, or 18 per cent., recovered, and the animals imported from England all died. There was also a heavy mortality in that year among the sheep and pigs. The following are the financial results for the two years:—1874-75—Expenditure, Rs. 13,297. 0. 5; receipts, Rs. 309. 2. 6: deficit, Rs. 12,987. 13. 11. 1875-76—Expenditure, Rs. 11,445. 8. 6; receipts, Rs. 1036. 15. 0: deficit, Rs. 10,408. 9. 6. Total deficit, Rs. 23,396. 7. 5, or £2339,
648 13s. In view of these figures the Chief Commissioner has deter-
654 mined to restrict farming operations to small experiments in irrigated *rabi* crops, and, as a measure of economy, to dispense with the services of the superintendent. The future expenditure on the farm will be insignificant. The establishment now (1877) consists of a *sardár* on Rs. 50 and a *chaukídár* on Rs. 10 a month (total, £72 a year), under the direct control of the Deputy-Conservator of Forests; the total number of live-stock is 64 head.

731 NATURAL CALAMITIES, such as blights, floods, or droughts, are not common in the District, although the crops in the Jáintiá Hills sometimes suffer from insects. So far as the Deputy-Commissioner is able to ascertain, no destruction of crops affecting the general harvest has occurred within the experience of the present generation.
[435] During the Orissa famine of 1866-67 the maximum price of common rice reached £1 per hundredweight, but no such distress was felt as to require Government relief operations. The price just mentioned was certainly equal to the rates prevalent in the famine-stricken localities; but prices always rule high in the Hills, and afford no just criterion of the state of affairs among the general body of the inhabitants. Distress was only felt by a small portion of the population, chiefly the Bengálí immigrants residing in the District,
262 who are generally a well-to-do class. The Hill people, as a rule, do
244 not eat potatoes, which they grow only for export; but in case of
439 actual famine, they might fall back upon this crop for their own food supply.

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ESTIMATE OF EXPORTS FROM THE KHASI AND JAINTIA HILLS FOR THE YEAR 1876-77.

ARTICLES.	RATES OF VALUATION.	WEIGHT OR NUMBER.	VALUE.
	Rs.		Rs.
Tejpát or bay leaves,	2. 8 per *maund.*	26,000 *maunds.*	65,000
Betel-nuts and *pán* leaves,	...	...	95,600
Black pepper,	1. 8 per *maund.*	500 ,,	9,000
Boats,	...	...	7,000
Cinnamon,	4. 0 per *maund.*	900 ,,	3,600
Chillies,	8. 0 ,,	2,600 ,,	20,800
Cotton,	6. 0 ,,	36,000 ,,	216,000
Fruits (jack and lime),	...	...	2,600
Garlic,	...	...	3,100
Hides,	...	...	1,200
Honey,	15. 0 per *maund.*	330 ,,	4,950
India-rubber,	40. 0 ,,	200 ,,	8,000
Iron implements,	...	...	7,000
Limestone,	300. 0 per 1000 *maunds.*	1,600,000 ,,	480,000
Oranges,	12. 0 per 3000.	9,400,000 No.	37,600
Potatoes,	2. 8 per *maund.*	200,500 *maunds.*	501,250
Pine-apples,	...	...	8,000
Stick lac,	20. 0 per *maund.*	5,000 ,,	100,000
Timber, bamboos, and canes,	...	...	30,000
Turmeric,	2. 0 per *maund.*	700 ,,	1,400
Bees-wax,	55. 0 ,,	26 ,,	1,430
Total,	...	...	1,603,530

Text continued from page 238.]

This price is about the same as it was twenty years ago, but the quantity has increased fourfold. The potato was first introduced into the Hills in 1830 by Mr. David Scott, who was then the Governor-General's Agent. 'No greater boon could have been conferred upon the people.' The local trade is entirely in the hands of the Khásiás themselves, and the larger portion of the produce is despatched direct to Calcutta. According to the registration returns of river traffic in Bengal, the export of provisions (including vegetables) from Sylhet in 1876-77 was 123,108 *maunds*, valued at Rs. 369,324, or £36,932, at the rate of Rs. 3 per *maund*.

The export of oranges in 1876-77 was 9,400,000 in number, valued at Rs. 37,600, at the rate of Rs. 12 per 3000. These figures apparently show a great decrease since 1858. At that time Mr. Inglis possessed the entire monopoly of the trade, by means of the leases which he held from the Khási Chiefs of all the valuable groves. The annual produce of his groves was estimated at forty-five millions of oranges, having increased from eleven millions within the